KISS

User's Manual

Version: preliminary 0.98

Kontron Embedded Computers GmbH

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Introduction

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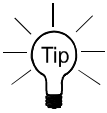
Symbols used in this Manual

Symbol	Meaning
	This symbol indicates the danger of injury to the user or the risk of damage to the product if the corresponding warning notices are not observed.
	This symbol indicates that the product or parts thereof may be damaged if the corresponding warning notices are not observed.
	This symbol indicates general information about the product and the user manual.
	This symbol indicates detail information about the specific product configuration.
	This symbol precedes helpful hints and tips for daily use.

Important Instructions

This chapter contains instructions which must be observed when using your KISS-Platform.

The manufacturer's instructions provide useful information on your KISS-Platform.

Note on the Warranty

Due to their limited service life, parts which by their nature are subject to a particularly high degree of wear (wearing parts) are excluded from the guarantee beyond that provided by law. This applies, for example, batteries.

Exclusion of Accident Liability Obligation

Kontron Embedded Computers shall be exempted from the statutory accident liability obligation if the user fails to observe the safety instructions.

Liability Limitation / Exemption from the Warranty Obligation

In the event of damage to the device caused by failure to observe the hints in this manual and eventually on the device (especially the safety instructions), Kontron Embedded Computers shall not be required to honor the warranty even during the warranty period and shall be exempted from the statutory accident liability obligation.

Safety Instructions

Please read this section carefully and observe the instructions for your own safety and correct use of the device.
The chapter also contains information on approval and interference suppression of your system.
Observe the warnings and instructions on the device and in the manual.
The KISS system is built and tested by Kontron Embedded Computers in accordance with EN60950/VDE0805 and left the company in a perfectly safe condition.
In order to maintain this condition and ensure safe operation, the user must observe the instructions and warnings contained in this manual.
Kontron Embedded Computers can only guarantee the safety, reliability and performance of the device if all of the following safety instructions are observed.

Caution:
Energy hazards > 240 VA are present inside the chassis!!!
Only qualified personnel and/or by Kontron Embedded Computer authorized persons are permitted to work inside the system or handling expansion cards!!!!

- ❑ Maintenance or repair on the open device may only be carried out by qualified personnel authorized by Kontron Embedded Computers familiar with the associated dangers.
- ❑ The device may only be opened for the installation and removal of AGP/ISA/PCI cards in accordance with the description in this manual. These procedures have to be carried-out only by qualified specialist personnel.
- ❑ If extensions are made to the device the legal stipulations and the device specifications must be observed.
- ❑ The device must be switched off and the power cord disconnected from the power source before insertion of any AGP/PCI/ISA cards.
- ❑ The unit is not completely disconnected from the main power source by turning off with the power ATX-power button.
  The unit is complete disconnected from the main power source, only when the power cord is disconnected either from the power source or from the unit. Therefore the power cord and its connectors must always remain easily accessible.

- ❑ The device must be used in accordance with the instructions for use.
- ❑ The electrical installations in the room must correspond to the requirements of the respective regulations.
- ❑ Take care that there are no cables, particularly power cables, in areas where persons can trip over them.
- ❑ Do not use a main connection in sockets shared by a number of other power consumers. Do not use an extension cable.
- ❑ Only use the main cable supplied.
- ❑ Do not place the device near heat sources or in a damp location. Make sure the device has adequate ventilation.
- ❑ Only devices and components which fulfill the requirements of an SELV circuit (security low voltage output) in accordance with EN60950 may be connected to the interfaces of the system.
- ❑ All plugs on the connection cables must be screwed or locked to the housing.
- ❑ The device is designed to be used:
  - rack and desktop version in horizontal position and
  - tower version in vertical position.
- ❑ Only approved original accessories by Kontron Embedded Computers have to be used.
- ❑ It must be assumed that safe operation is no longer possible,
  – if the device has visible damage or
  – if the device no longer functions.
  In these cases the device must be shut down and secured against unintentional operation.

Operation of Laser Source Devices

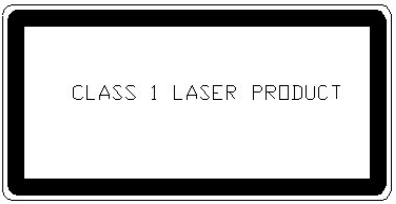


Fig. 1: Warning about laser radiation

The optional CD ROM- and DVD ROM-drives contain light-emitting diodes (classified in accordance with IEC 825-1:1993: LASER CLASS 1) and, therefore, must not be opened.
If the enclosure of such a drive is opened, invisible laser radiation is emitted. Do not allow yourself to be exposed to this radiation.

Laser system meet the code of Federal Regulations 21 CFR,1040 for USA and Canadian Radiation Emitting Devices Act, REDR C 1370.

Electrostatic Discharge (ESD)

A sudden discharge of electrostatic electricity can destroy static-sensitive devices or micro-circuitry. Proper packaging and grounding techniques are necessary precautions to prevent damage. Always take the following precautions:

1. Transport boards in static-safe containers such as boxes or bags.
2. Keep electrostatic sensitive parts in their containers until they arrive at static-free stations.
3. Always be properly grounded when touching a sensitive board, component, or assembly.
4. Store electrostatic-sensitive boards in protective packaging or on conductive foam.

Grounding Methods

Guard against electrostatic damage at the device by following these steps:

1. Cover workstations with approved anti-static material. Provide a wrist strap connected to a work surface and properly grounded tools and equipment.
2. Use anti-static mats, heel straps, or air ionizes to give added protection.
3. Handle electrostatic-sensitive components, boards, and assemblies by the case or the PCB edge.
4. Avoid contact with pins, leads, or circuitry.
5. Turn off power and input signals before inserting and removing connectors or test equipment.
6. Keep work area free of non-conductive materials such as ordinary plastic assembly aids and Styrofoam.
7. Use field service tools, such as cutters, screwdrivers, and vacuums that are conductive.
8. Always place drives and boards PCB-assembly-side down on the foam.

Instructions for the Lithium Battery

The implemented mainbord or SBC-board is equipped with a Lithium battery. For the replacing of this battery please observe the instructions described in the chapter “Replacing the Lithium Battery ”.

Warning
Danger of explosion when replacing with wrong type of battery. Replace only with the same or equivalent type recommended by the manufacturer.

Do not dispose of lithium batteries in general trash collection. Dispose of the battery according to the local regulations dealing with the disposal of these special materials, (e.g. to the collecting points for dispose of batteries).

FCC Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Electromagnetic Compatibility

This product has been designed for industrial, commercial and office use, including small business use. The most recent version of the EMC guidelines (EMC Rules 89/336/EWG) and/or the German EMC laws apply. If the user modifies and/or adds to the equipment (e.g. installation of add-on cards), the prerequisites for the CE conformity declaration (safety requirements) may no longer apply.

Scope of Delivery

- ❑ KISS-Platform (corresponding the ordered configuration)
- ❑ This user's manual
- ❑ Motherboard or SBC-board – User's Manual
- ❑ CD-ROM with drivers for the installation of the SBC-board
- ❑ Two keys for the front door lock
- ❑ Power cord (for AC power supply units only)

Type Label and Product Identification

The type label of the KISS-Platform is placed on the right side of the unit.

Product designation on the type label	**Product identification**
KISS_ATX MB-A	KISS with 886LCD Motherboard
KISS_PCI 951-B	KISS with PCI-951 SBC-board (Single Board Computer)
KISS_PCI 953-B	KISS with PCI-953 SBC-board (Single Board Computer)
KISS_EPCI-B	KISS with ePCI 200 SBC-board (Single Board Computer)
KISS_ATX Dual Xeon-C	KISS with Dual Xeon Motherboard

Product Description

KISS is a scalable 4U (19") Platform, that can be alternatively equipped with a motherboard or a single board computer (SBC)-board. The KISS-Platform hardware can be flexibly configured corresponding to the customized requirements. In addition, the sturdy design with excellent mechanical stability, provides the demanding characteristics required for a computer, that is suitably for using in harsh industrial environment.

The KISS-Platform is designed to be installed in 19“ racks. It is also offered as tower- and desktop version.

Versions of the KISS-Platform:

Fig. 2: Rackmount version with closed access door	*Fig. 3: Tower version with closed access door*	*Fig. 4: Desktop version with closed access door*
Fig. 2a: Rackmaunt version with opened access door	*Fig. 3a: Tower- version with opened access door*	*Fig. 4a: Desktop- version with opened access door*

The system is equipped with five front accessible drive bays (two 3.5” and three 5.25” bays).

The operating elements of the KISS-Platform are located behind the front access door and consist of the “ATX-power button” and the “Reset-button” for the standard configuration.

The LED-indicators are located on the front side; for the standard version these are composed of the “power-LED” and “hard disk activity-LED”.

The system fans (2 off) are installed at the front side of the unit. These are attached to the system by means of a fan slide-in module. The fan slide-in module simplifies the installation and removal of these components, also during operation.

The washable filter mat, which protects your system against dust and dirt is located behind the air grilles of the front access door. The outside accessible filter mat is changeable while the KISS-Platform is powered-up.

The type label is attached to the right side of the unit.

Fig 5: KISS-Platform

☞ When switching on the system, make sure that the air intake and exhaust openings are not obstructed by objects.

☞ **For rack and desktop version only:**
Before the system is put for the first time into operation (before mounting / installation into an industrial cabinet), you have to open the unit as described in the "Accessing Internal Components" section and to remove the drive locking screws (*fig. 6, 6a, 7, 7a pos. 14*).

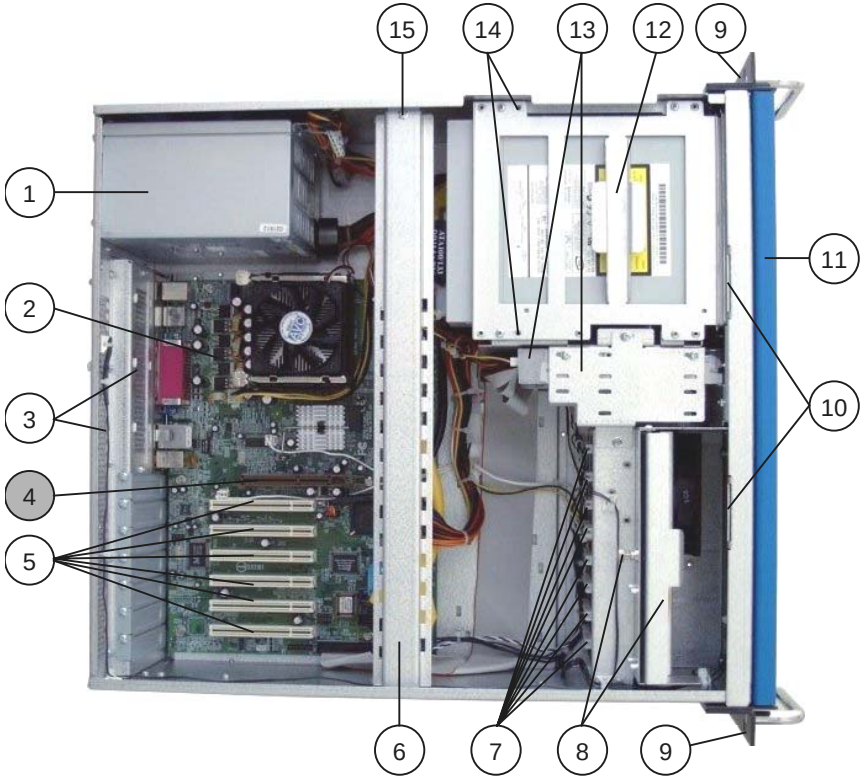


Fig 6: KISS-Platform, opened rackmount version [with motherboard (KISS_ATX MB-A)]

Legend for figures: 6 and 6a

1 Power supply unit
2 Motherboard (example)
3 Exhaust openings on the rear side
4 Free AGP-slot (available only in KISS_ATX MB-A)
5 Free expansion slots
6 Cards holder
7 Card guides
8 Fan slide-in module with captive knurled screw
9 19” rack mountable bracket with handle (not available for tower and desktop version)
10 Guide openings for the cover
11 Front access door
12 Drive cage for 3x 5.25“ drive bay and 1x 3.5“ internal drive bay
13 Drive bracket for 2x 3.5“ drive bay
14 Drive locking screws
15 Fastening screw for the card holder
16 External interfaces of the motherboard
17 Grounding stud
18 Expansion card slots

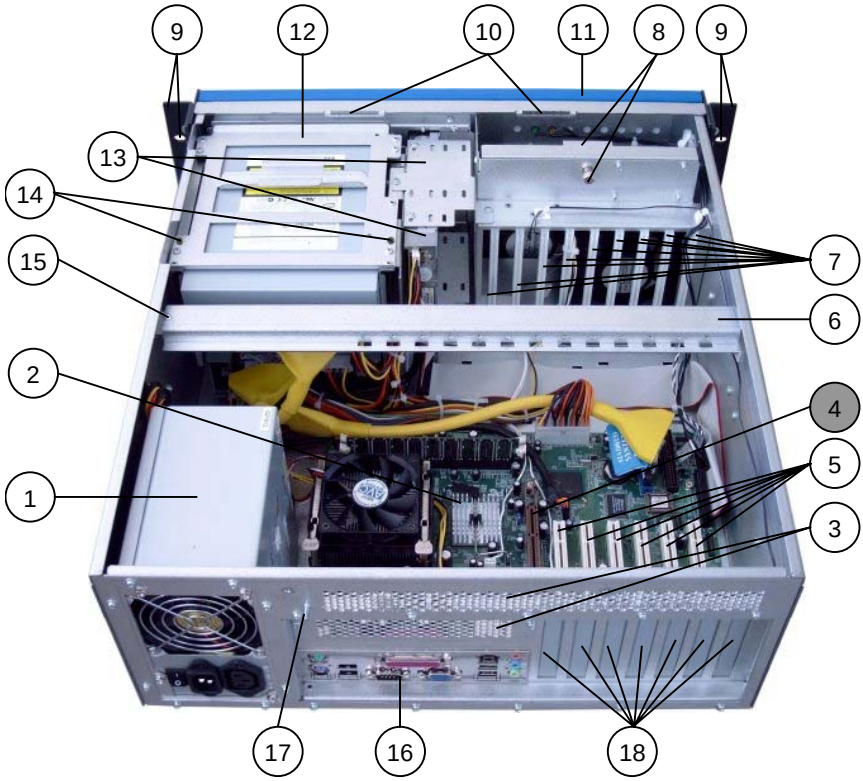


Fig 6a: KISS-Platform, opened rackmount version [with motherboard (KISS_ATX MB-A)]

When switching on the system, make sure that the air intake and exhaust openings are not obstructed by objects.

For rack and desktop version only:
Before the system is put for the first time into operation (before mounting / installation into an industrial cabinet), you have to open the unit as described in the "Accessing Internal Components" section and to remove the drive locking screws (*Fig. 6, 6a, 7, 7a pos. 14*).

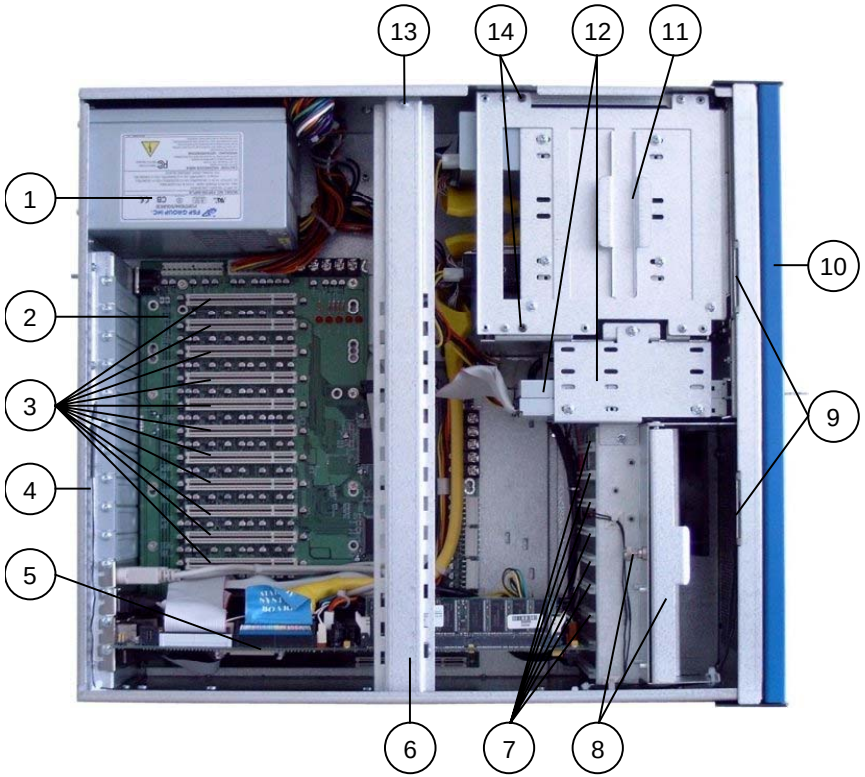


Fig. 7: KISS-Platform, opened desktop version [with SBC-board (KISS_PCI 953-B)]

Legend for figures: 7 and 7a:

1 Power supply unit
2 Backplane (example)
3 Free expansion PCI-slots
4 Exhaust openings on the rear side
5 Single Board Computer (example)
6 Cards holder
7 Card guides
8 Fan slide-in module with captive knurled screw
9 Guide openings for the cover
10 Front access door
11 Drive cage for 3x 5.25“ drive bay and 1x 3.5“ internal drive bay
12 Drive bracket for 2x 3.5“ drive
13 Fastining screw for the card holder
14 Drive locking screws
15 External interfaces of the SBC-board
16 Additional external interfaces
17 Grounding stud
18 Expansion card slots

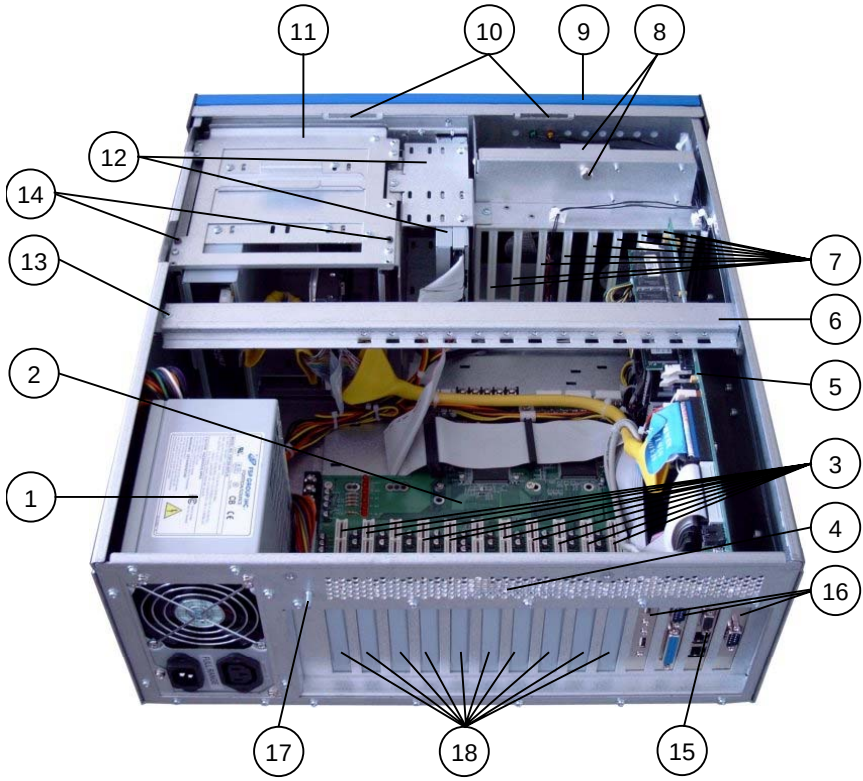


Fig. 7a: KISS-Platform, opened desktop version [with SBC-board (KISS_PCI 953-B)]

☞ When switching on the system, make sure that the air intake and exhaust openings are not obstructed by objects.

☞ **For rack and desktop version only:**
Before the system is put for the first time into operation (before mounting / installation into an industrial cabinet), you have to open the unit as described in the "Accessing Internal Components" section and to remove the drive locking screws (*Fig. 6, 6a, 7, 7a pos. 14*).

Front Side

The system is available in rackmount version.

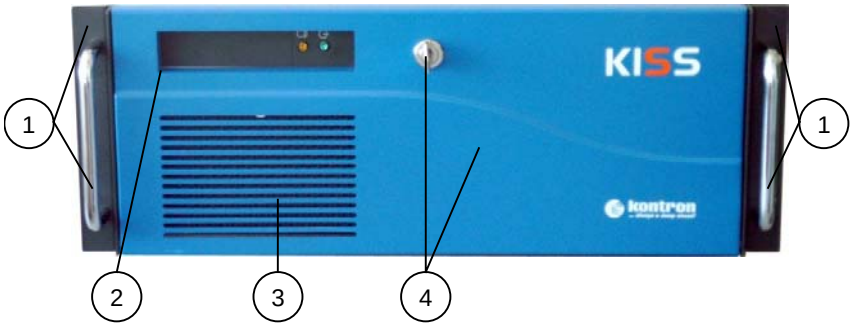


Fig. 8: Front side (rackmount version) with closed front access door

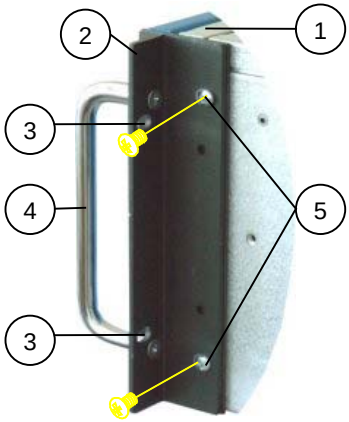
1 19” rack mountable bracket with handle (not available for tower version)

2 Cut-out for LED indicators

3 Air grilles

4 Front access door with lock mechanism

You can adapt your system to a desktop unit by removing the two 19” rack mountable bracket with handle (one off on each side).



1 Chassis of the KISS-Platform

2 19” rack mountable bracket with handle

3 Holes for mounting in rack cabinets

4 Handles

5 Screws for fastening the 19” rack mountable bracket

Fig. 9: 19” rack mountable bracket with fastening screws

The KISS tower version is delivered without 19” rack mountable bracket.

The operating elements (ATX-power button and reset button), the USB interfaces and the integrated drives are located at the front side of the KISS-Platform, behind the front access door.

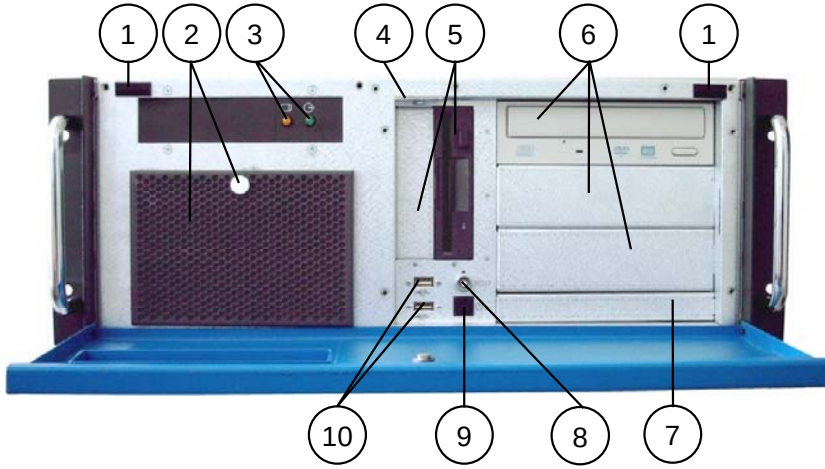


Fig. *10: Front side (rackmount version) with opened front access door*

1 Buffer for the front access door

2 Bracket with knurled screw for the air filter mat

3 LED indicators

4 Slot for the locking mechanism

5 2x 3.5” drive bay (shown with one equipped FDD)

6 3x 5.25” external accessible drive bay (shown with one equipped DVD-drive)

7 1x internal 3,5“- or 1x external Slim-drive bay (not available in tower version)

8 Reset-button

9 ATX-power button

10 2x USB interface

Operating Elements

ATX-power button Press this button to turn the system on or off.

Reset-button If your system no longer reacts, you have to restart the KISS-Platform. Press the reset button to restart your system.

When you reset, all data in the main memory are erased. The system restarts without having to turn the computer off and back on again.

Even if you turn off the system with the ATX-power button, there is still a standby-voltage of 5 V on the SBC-board/motherboard.

The system is not completely disconnected from the main power source by turning off the with the ATX-power button.

The unit is complete disconnected from the main power source, only when:

- ❑ the power cord is disconnected either from the power source or the unit **(for KISS system with power supply unit (PSU) without PSU On/Off power switch)**.

or

- ❑ the On/Off power switch of the power supply unit is switched “Off” **(for KISS systems with power supply unit (PSU) with PSU On/Off power switch)**

Therefore the power cord and its connectors must always remain easily accessible.

Interfaces on the Front Side

USB Interfaces

KISS is equipped with two USB interfaces at the front side. These connectors allow you to connect different USB-compatible devices to the KISS-Platform.

Integrated Board		Supports USB1.1	Supports USB2.0
Dual Xeon-Board	Motherboard	☑	☑
LCD 886	Motherboard	☑	☑
PCI-951	SBC-board	☑	☑
PCI-953	SBC-board	☑	☑
EPCI-200	SBC-board	☑	☐

Please observe that the KISS-Platform equipped with ePCI-200 SBC-board supports USB1.1 only.

LED Indicators

Following LED indicators at the left front side of the KISS-Platform:

LED indicators	
Power LED (green)	Lights up green if the system switched on by pressing the “ATX-power button”. **Prerequisite:** The system must be attached by means of the power cord to an appropriate power source. The power switch of the PSU located on the rear side of the unit must be set to “**On**” (only for systems with PSU switch).
HDD Activity LED (orange)	Indicates hard disk activity.

Do not press the disk eject while the disk drive LED is lit or blinking.

Front Access Door

You can protect the drives and operating elements at the front side of the KISS-Platform from unauthorized use, by means of the front access door equipped with a securing lock mechanism (only with no attached USB devices).

The key should be kept somewhere where it is not accessible to unauthorized persons.
The KISS-Platform comes equipped with two keys. If the keys get lost or damaged, then the front access door can be opened only by Kontron Embedded Computers service personnel.

Filter Mat Holder

The filter mat holder is located behind the air grilles of the front access door. The filter mat is inserted in the air filter holder. The filter mat protects your system against dust and dirt. The filter mat is changeable while the system is powered-up. (see “Cleaning the Filter Mat“ section).

External Accessible Drive Bays

The KISS system can be equipped with up to five external accessible drives. Following drive bays are available:

- ❑ 3x 5.25“ drive bay (horizontal position)
- ❑ 2x 3.5” drive bay (vertical position)

External Accessible Slim-Line or Internal 3.5“ Drive Bay (Option)

The KISS desktop and rackmount version can be optionally equipped with:

- ❑ 1x internal, not visible from the outside, 3.5“ drive bracket in horizontal position (for IDE/SCSI/SATA hard disk drive)
  or
- ❑ 1x external accessible slim-drive bay in horizontal position.

This option is not available in systems configured as tower version.

Rear Panel

Depending on the ordered KISS-Platform configuration, at the rear side are situated the external interfaces of the integrated motherboard or SBC-board, the additional interfaces (only in system configuration with SBC-board), the power supply unit and the air exhaust openings.

The configuration respectively the number of the KISS-Platform interfaces may vary depending on the device equipment.

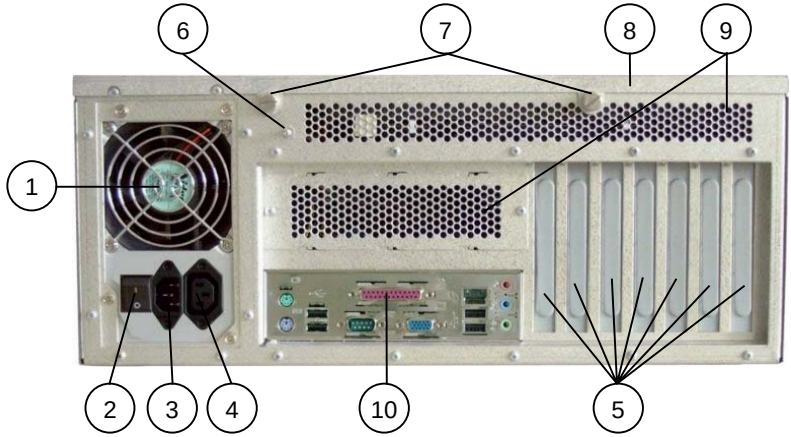


Fig. 11: KISS_ATX MB-A – rear side (always with 300 W PSU)

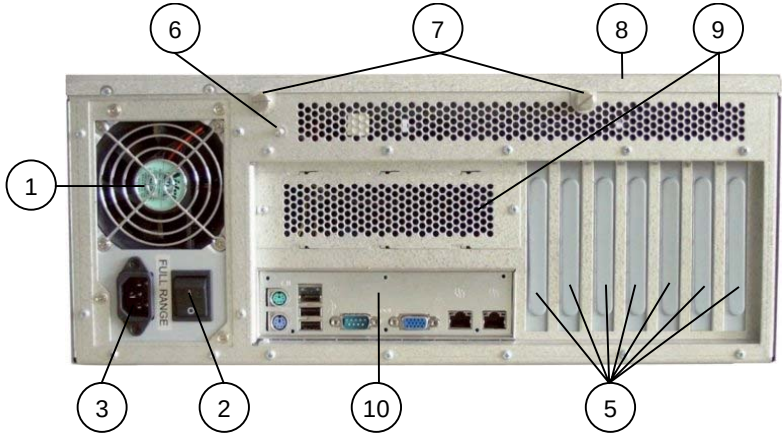


Fig. 11a: KISS_ATX_ Dual Xeon-C – rear side (always with 450 W PSU)

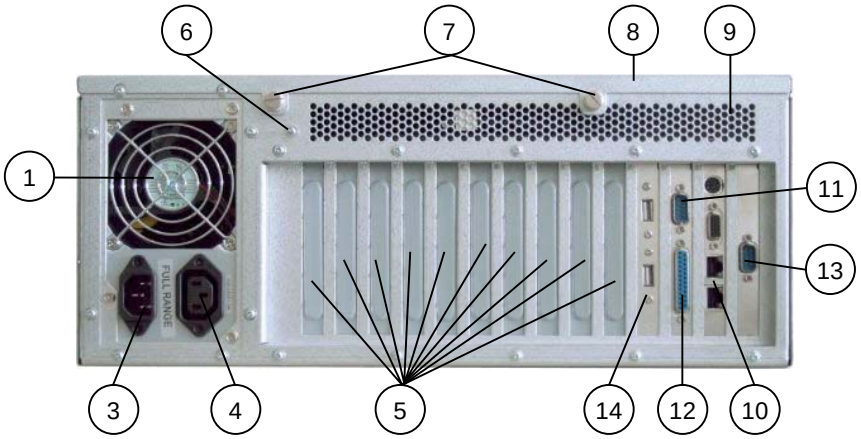


Fig. 11b: KISS with SBC-board (example) – rear side (always with 350 W PSU)

Legend for figures: 11, 11a, and 11b:

1 Fan of the PSU

2 On/Off switch of the PSU (depending on the integrated PSU)

3 AC-power plug

4 AC-socket for monitor (depending on the integrated PSU)

5 32 bit or 64 bit free expansion card slots (depending on the integrated board)

6 Grounding stud

7 Captive knurled screws to secure the cover

8 Device cover

9 Air exhaust openings

10 Interfaces of the SBC-board or of the motherboards (depending on the system configuration)

11 Additional serial interface (COM2) (only in configuration with SBC-board)

12 additional parallel interface (LPT) (only in configuration with SBC-board)

13 Additional serial interface (COM1) (only in configuration with SBC-board)

14 Two additional USB interfaces (only in configuration with SBC-board)

Interfaces on the Rear Side

The configuration respectively the number of the KISS-Platform interfaces may vary depending on the device equipment.

External Interfaces of the integrated Motherboard

The external interfaces of the motherboard can be different, depending on the integrated motherboard.
Refer to the information and technical data in the supplied user manual of the motherboard.

External Interfaces of the integrated SBC-board

The external interfaces of the SBC-board can be different, depending on the integrated SBC-board.
Refer to the information and technical data in the supplied user manual of the SBC-board.

Additional Interfaces in Configuration with SBC-board

Serial Interfaces (COM1, COM2)

These connections are available as 9-pin D-SUB plug and allow you to connect serial peripherals. These additional interfaces are configured as RS232.

Refer to the information and technical data in the supplied user manual of the SBC-board.

Parallel Interface Connector LPT1

This connector is available as a 25-pin D SUB socket. The parallel interface LPT1 supports different modes: SPP, EPP and ECP.
It is used for the connection of an external printer and can also be used for other external devices, which can be connected via a parallel port. Nonetheless, depending on the device, the manufacturer's instructions must be observed and the necessary software driver installed.

USB Interfaces

KISS is equipped with two USB interfaces at the rear side. These connectors allow you to connect different USB-compatible devices to the KISS-Platform.

Integrated Board		Supports USB1.1	Supports USB2.0
Dual Xeon-Board	Motherboard	☑	☑
LCD 886	Motherboard	☑	☑
PCI-951	SBC-board	☑	☑
PCI-953	SBC-board	☑	☑
EPCI-200	SBC-Board	☑	☐

☞ Please observe that the KISS-Platform equipped with ePCI-200 SBC-board supports USB1.1 only.

Power Supply Unit

The power supply unit (PSU) is placed on the rear side of the unit. The implemented PSU depends on the ordered system configuration (integrated motherboard respectively SBC-board).

For information about the integrated power supply unit (PSU) and the supply voltage of your system, refer to the type label attached on the right side of the unit.

Upon request, your system can be equipped also with a DC power supply.

Fan Slide-In Module and Temperature Sensors

The two fans of the system are firmly mounted in a user friendly, exchangeable fan slide-in module (hot swap). The fan slide-in module is installed in the fan case located at the front side of the system.
The systems fans are temperature-controlled via the temperature sensors which are built in the system. Thus sufficient airflow is ensured for an optimal, active cooling of the system.

The operation of the KISS-Platform is permitted only with a functional fan slide-in module (refer to the “Replacing the System’s Fans” section).
Defective components may be replaced only by Kontron original spare parts.

- ❑ part number of the fan slide-in module: 0-0084-3604

The temperature conditions of the system (dependent on the ambient temperature and the system load) are acquired by two temperature sensors. One of the temperature sensors is attached in the rear range of the system (air exhaust openings) and the second one is attached laterally, in the middle range.

Side View

Four M4 metric tapped holes are available at the left and right side of the unit. These can be used in order to attach slide rails (not included in the scope of delivery) to the KISS-Platform (for system installation into a 19” industrial cabinet). Refer to the “Slide Rails (Option)” chapter.

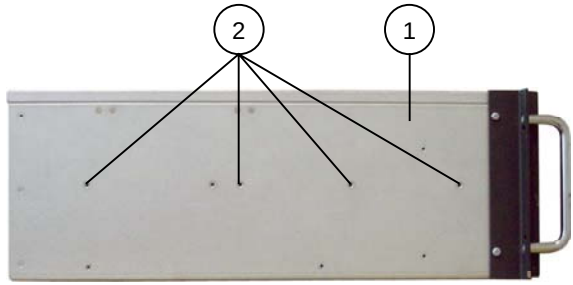


Fig. 12: Tapped M4 metric holes to attach a telescope rail

1 Side view of the KISS-Platform
2 4x tapped M4 metric holes (on both sides)

Integrated Motherboard / SBC-board

Depending on the ordered system configuration, your KISS-Platform accommodates either a motherboard or a SBC-board.

System identification	Integrated Board	Board Type
KISS_ATX MB-A	886LCD	Motherboard
KISS_ATX Dual Xeon-C	Dual-Xeon	Motherboard
KISS_PCI 951-B	PCI-951	Single Board Computer
KISS_PCI 953-B	PCI-953	Single Board Computer
KISS_EPCI-B	ePCI-200	Single Board Computer

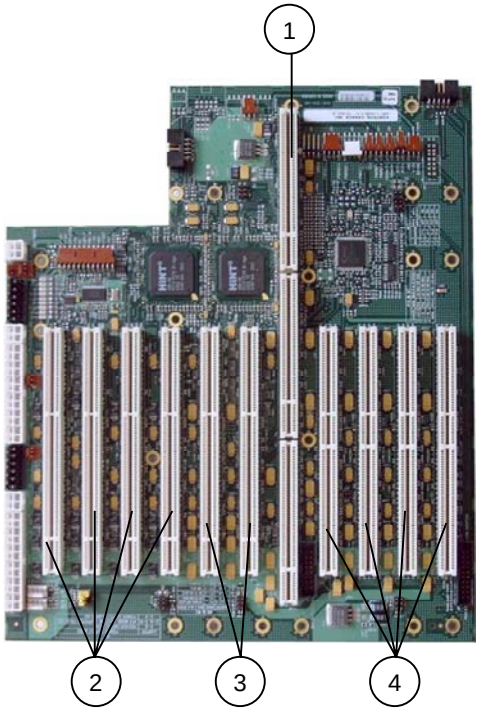
Refer to the information and technical data in the supplied user manual of the motherboard or SBC-board.

Depending on the ordered KISS hardware configuration you can expand your system with extension cards with full or half size length.

To expand your system with additional cards, please observe the power consumption specification specified in the “Main Specifications” chapter and that every additional card does not exceed 25 W power consumption.

Backplane (for Configuration with SBC-Board)

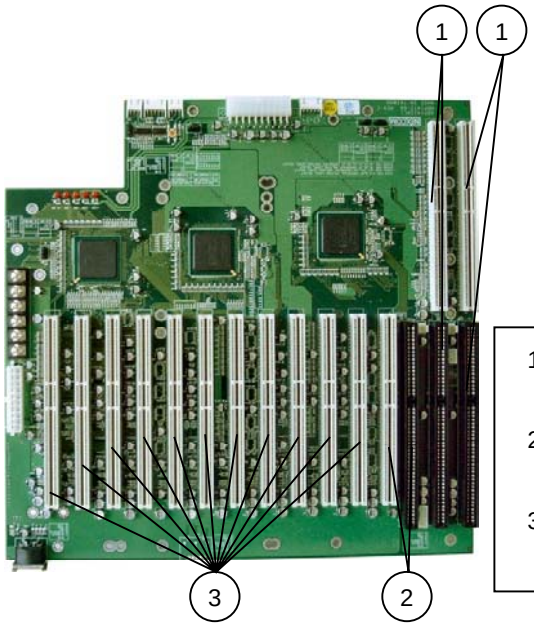
To expand your system with additional cards, please observe the power consumption specification specified in the “Main Specifications” chapter and that every additional card does not exceed 25 W power consumption.



Maximal supported Bus speeds

1	1x PICMG 1.2 CPU-slot
2	4x 64 bit @ 66 MHz PCI-slot, 3.3 V keying
3	2x 64 bit @ 133 MHz PCI-Steckplatz, 3,3 V Keying
4	4x 32 bit @ 33MHz PCI-Steckplatz, 5 V Keying

Fig. 13: Backplane (for system configuration with ePCI-200 SBC-board)

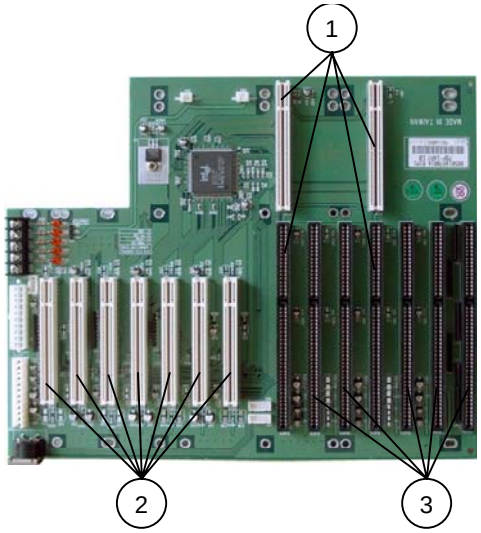


1 2x 64 bit PICMG 1.0 CPU-slot

2 1x 16 bit ISA- / 64 bit PCI-shared slot

3 12x 64 bit PCI-slot

Fig. 13a: Backplane (for system configuration with PCI-953 SBC-board)

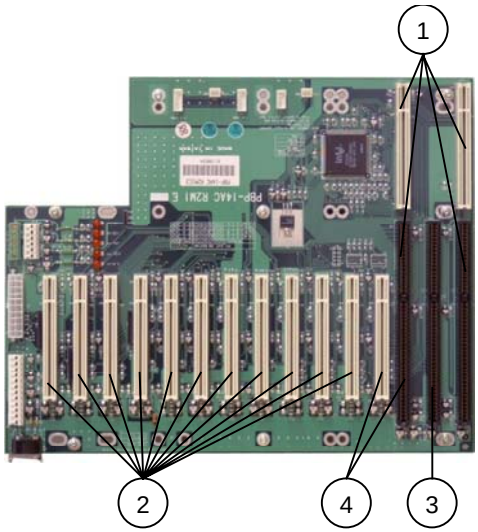


1 2x 32 bit PICMG 1.0 CPU-slot

2 5x 16 bit ISA-slot

3 7x 32 bit PCI-slot

Fig. 13b: Backplane (for system configuration with PCI-951 SBC-board)



1 2x 32 bit PICMG 1.0 CPU-slot

2 11x 32 bit PCI-slot

3 1x 16 bit ISA-slot

4 1x 16 bit ISA- / 32 bit PCI-shared slot (if the left PICMG CPU-slot is not fitted with a SBC-card)

Fig. 13c: Backplane (for system configuration with PCI-951 SBC-board)

Assembly, Disassembly

Attaching the Rubber Feet

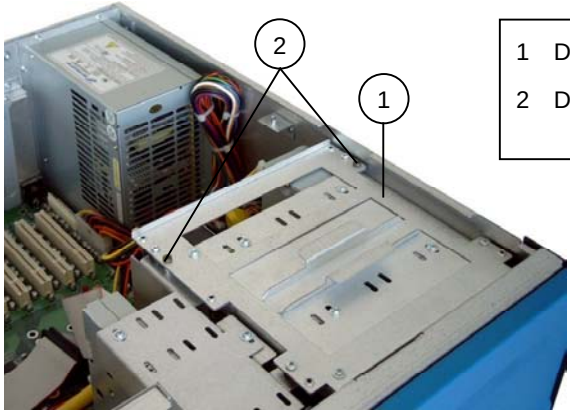
The rubber feet can be used for the desktop version of the system. Please follow these steps to attach the rubber feet to the bottom side of the chassis:

Before attempting to mount the rubber feet, the system must be powered-down and the power cord has to be disconnected from the power source.

1. Make sure that all cards are secured into the unit and that the system cover is installed and secured.
2. Turn the system upside down.
3. Remove the protect foil from the delivered self adhesive rubber feet.
4. Attach the self adhesive rubber feet to the bottom side of the chassis.

Removing the Drive Locking Screws

Before you start-up the system (only for rackmount- and desktop version) for the first time (before mounting/mounting into an industrial cabinet) open the system as described in the “Accessing Internal Components” section and remove the drive locking screws.



1 Drive cage

2 Drive locking screws

Fig. 14: KISS-Drive cage with drive locking screws

Accessing Internal Components

This section contains important information that you must read before accessing the internal components. You must follow these procedures properly when handling any boards or replacing the fan slide in module.

Installing/Removing the Expansion Cards

Please consider following instruction when you install (or remove) expansion cards.

Caution:
Energy hazards > 240 VA are present inside the chassis!!! Only qualified personnel and/or by Kontron Embedded Computer authorized persons are permitted to work inside the system or handling expansion cards!!!!

The installation and removal of PCI/ISA/AGP cards have to be carried-out only by qualified specialist personnel in accordance with the description in this manual.

Before removing the cover to gain access to the internal components, the system must be powered-down and the power cord has to be disconnected from the power source.

To expand your system with additional cards, please observe the power consumption specification specified in the “Main Specifications” chapter and that each additional card does not exceed 25 W power consumption.

Please observe the safety instruction for handling assemblies with static sensitive device.
Failure to take heed of this warning instruction can result in damage to the device.

Please consult the documentation provided by the manufacturer of the expansion card for instructions before attempting to install/remove an expansion card into/from the KISS-Platform.

To install or remove an expansion card, perform the following steps:

1. Turn off all power sources. Disconnect the power cord from power source.
2. Loosen the captive knurled screws on the rear side of the unit that secure the cover.

Fig. 15: Loosen the captive knurled screws

3. Lift the cover away.

Fig. 16: Removing the device cover

Fig. 17: KISS-Platform without cover

4. To remove the card holder loosen the screw of the card holder (1). Slide the card hold-down bracket to right (2), to pull it out from the two laterally located bolts. Lift the card hold-down bracket away (3). Retain the card hold-down bracket and the screw for later use.

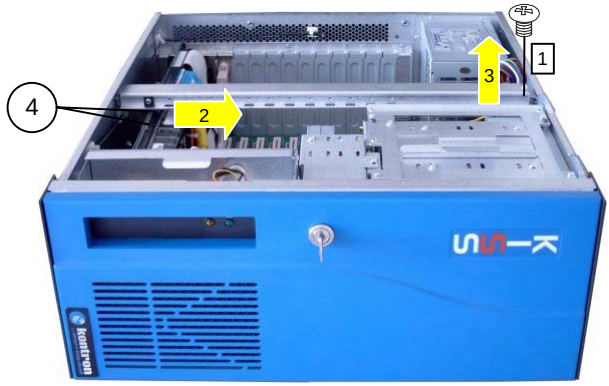
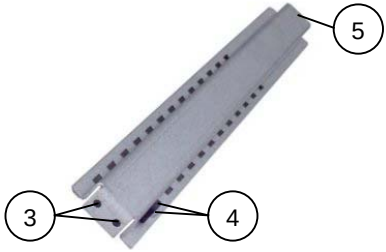


Fig. 18: Removing the fastening screw the card hold-down bracket

Fig. 19: Bolts and fastening point for the card hold-down bracket



Legend for figures: 18, 19 and 20:

1	Bolts for the card hold-down bracket
2	Threaded bolt
3	Locating holes
4	PCB holder
5	Hole for the fastening screw

Fig. 20: card hold-down bracket

5. Put/pull the expansion card into/or out from the expansion card slot of the backplane/motherboard and fasten the mounting bracket of the expansion card/filler bracket to the rear slot of the device.

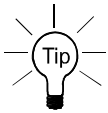
6. Reinstall the card holder and secure it using the retaining screw (see *Fig. 17*).

7. The PCP holder has to be installed into the appropriate hole of the card hold-down bracket by means of the provided screw, if necessary. Fix the upper edge of the expansion card (especially for full-length card) into the slot of the PCB holder (height adjustable). Thus the card is firmly kept in place during high mechanical load (shock and vibrations).

8. Close the KISS-Platform and secure the cover with the captive knurled screws.

Please consult the documentation provided by the manufacturer of the expansion card for instructions before attempting to install/remove an expansion card into/from the system.

Instruction for Installation in a 19” Cabinet



Expansion card installation should be performed before installing the KISS-system into an industrial cabinet or into a control panel. Refer to the “Accessing Internal Components” section.

Before closing the industrial cabinet, you have to connect the peripheral devices to the system interfaces. Refer to the “Interfaces on the Rear Side” subsection for the detailed description of the interfaces.

If you mount the KISS-system into an industrial cabinet, it is advisable to use two people for the mounting, because the system weighs approx. 20 kg (approx. 44 lbs.).

Important Instructions!

The KISS-Platform has to be installed only by trained and qualified personal.

The KISS-Platform should be installed into a 19”-industrial cabinet with mounting rails.
Check the load capacity of the mounting rails [the unit may weigh up to 20 kg (approx. 44 lbs.)].

Ensure there is sufficient air circulation around the device when installing the KISS-Platform.

The openings for air intake and exhaust on the device must not be obstructed.

Leave at least 5 cm (approx. 2”.) of free space in front and behind the unit to prevent the device from possibly overheating!

The 19" industrial cabinet must stand firmly in place. You can improve its stability by placing the components into it from the bottom up. Heavy components should be placed down below.

If further stabilization is necessary, then bolt the 19" industrial cabinet to the floor or anchor it on the wall.

The voltage feeds must not be overloaded. Adjust the cabling and the external overcharge protection to correspond with the electrical data indicated on the type label.

The type label is located on right side of the unit.

Power Cord Connection

The AC power plug is located on the rear side of the KISS-Platform.

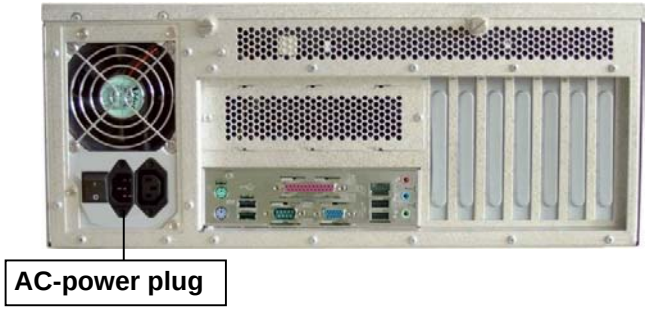


Fig. 21: AC-Power connection (KISS_ATX MB-A)

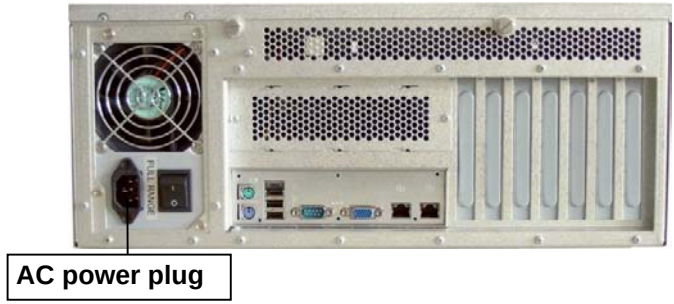


Fig. 22: AC-Power connection (KISS_ATX Dual Xeon-C)

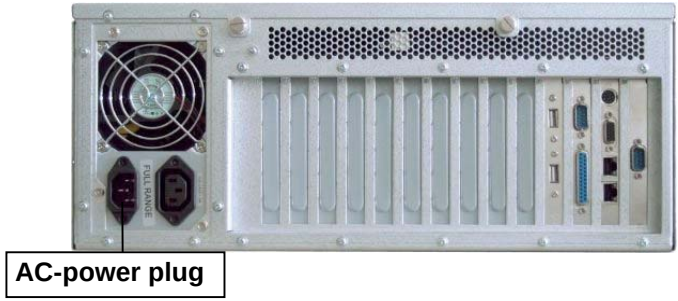


Fig. 23: AC-Power connection (KISS_PCI 951-/ 953-/ EPCI-B)

The voltage of the power source must agree with the voltage value on the type label.

1. Connect the supplied AC power cord into the system AC power plug (see *fig. 21, 22 and 23*).
2. Connect the other end of the AC power cord into a corresponding outlet.

Use the power cord suitable for the power supply in your country.

Do not remove or alter the grounding prong on the power cord. In situations where a two-slot receptacle is present, have it replaced with a properly grounded three-prong grounding type receptacle.

Operating System and Hardware Components Drivers

The KISS-system can optionally be supplied with or without a pre- installed operating system.

If you have ordered your system with a pre- installed operating system, all drivers are installed, corresponding to the ordered computer configuration (optional hardware components). Your computer is fully functional, when you switch it on for the first time.

If you have ordered your system without pre- installed operating system, you have to install the operating system and the corresponding drivers for the ordered computer configuration (optional hardware components).

Consider the manufacturer specifications of the operating system and the integrated hardware components.

Maintenance and Prevention

Kontron Embedded Computers systems require minimal maintenance and care to keep them operating correctly.

- ❑ Occasionally wipe the system with a soft dry cloth.
- ❑ You should only remove persistent dirt by use of a soft, slightly damp cloth (use only a mild detergent).
- ❑ Clean the air filter mats regularly (refer to the “Cleaning the Filter Mat” section).

Replacing the System's Fans

The operation of the KISS-Platform is permitted only with a functional fan slide-in module.
Defective components may be replaced only by Kontron original spare parts.

- ❑ part number of the fan slide-in module: 0-0084-3604

Important Instructions!
The fan slide-in module is changeable while the KISS-Platform is powered-up. This maintenance may only be carried out by qualified personnel familiar with the associated dangers.

To replace fan slide-in module, proceed as follows:

1. Open the unit as described in the "Accessing Internal Components" section, step 2-3. Pull out the device cover only so far, to have access to the fan slide-in module.
2. Loosen the captive knurled screw (*Fig. 24, pos. 4*). Use the handle (*Fig. 24, 24a, pos. 2*) of the fan slide-in module and pull it out from the fan case (*Fig. 24c, pos. 9*).

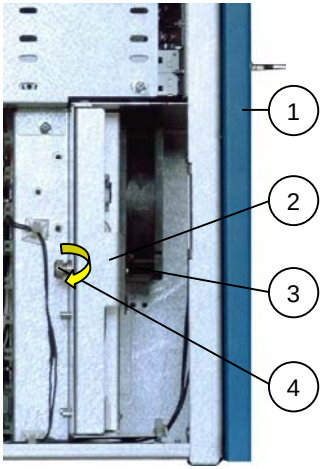


Fig. 24: KISS-Platform with fan slide-in module

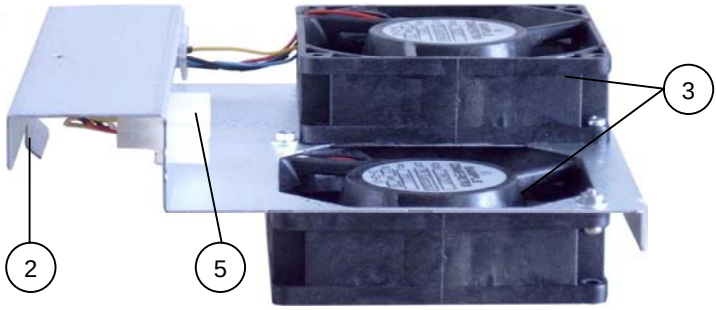


Fig. 24a: Side view of the fan slide-in module

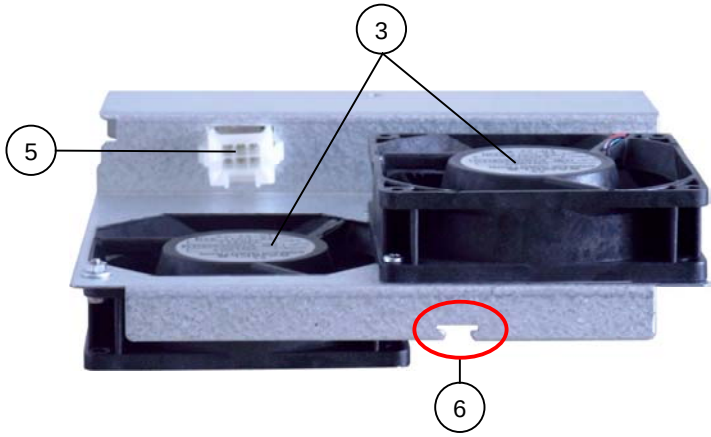


Fig. 24b: Bottom view of the fan slide-in module

Legend for figures: 24, 24a, 24b and 24c

1 Front access door of the system

2 Handle of the fan slide-in module

3 2x system fan (temperature controlled, independently controlled)

4 Captive knurled screw

5 Plug for fan control

6 Centering slot on the bottom side of the fan slide-in module

7 Socket in the fan case for fan control

8 Centering angle

9 Fan case

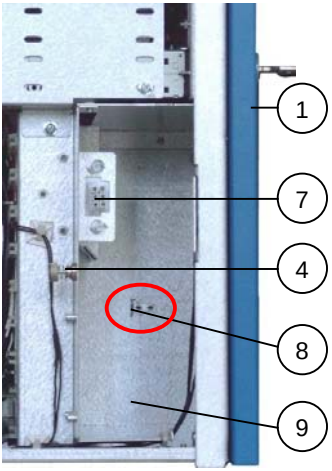
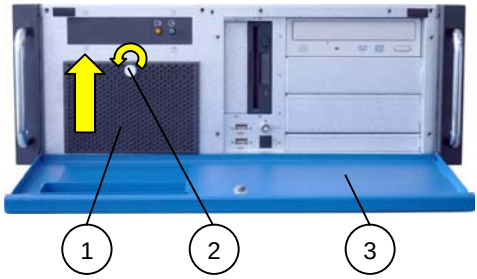


Fig. 24c: Fan case of the KISS-Platform without fan slide-in module

3. Replace the fan slide-in module with a new functional module. Push the fan slide-in module carefully into the fan case socket connector, by aligning the centering angle (*Fig. 24c, pos. 8*) to the centering slot (*Fig. 24b, pos. 6*).
4. Secure the fan slide-in module with the captive knurled screw.
5. Close the KISS-Platform and secure the cover with the captive knurled screws.

Cleaning the Filter Mat

The filter mat is inserted in the filter mat holder at the front side of the system. Cleaning frequency of the filter mat will depend on the operating environment. If the environment is extremely dusty, clean the filter mat more often. The filter mat can be changed even if the system is powered-up.



1 Filter mat holder

2 Fastening screw of the filter mat holder

3 Front access door

Fig. 25: Location of the filter mat

To replace or clean the air filter mat, proceed as follows:

1. Open the front access door.

2. Loosen the knurled screw that secure the filter mat holder with the air filter mat to the chassis.

3. Pull out the filter mat holder into the marked direction.

4. Remove the dirty air filter mat.

5. To clean the filter mat:

- ❑ Rinse in water (up to approx. 40°C; you may add mild-duty commercial detergent).
- ❑ It is also possible to beat it out, vacuum it or blast it with warm compressed air.
- ❑ If the filter is soiled with greasy dust, you should rinse it with warm water with degreaser added. Do not clean the filter mat with a piercing jet of water or wring it out.

6. After cleaning and drying the filter mat, replace it into the filter mat holder, Replace the filter mat holder to the front side of the chassis (*see Fig. 26, pos. 3 and Fig. 26a, pos. 4*).

7. Tighten the screw to secure the filter mat holder to the chassis.

When inserting the filter mat, ensure that the denser side of the mat is facing the fans.

Defective components may be replaced only by Kontron original spare parts.

❑ part number of the filter mat: 0-0084-2953

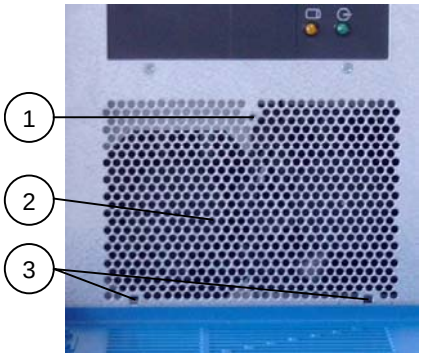


Fig. 26: Location for filter mat holder

Legend for figures: 26, 26a and 26b:

1 Threaded M4 metric stud
2 Air intake openings
3 Centering holes for the filter mat holder
4 Locking tabs
5 Inserted filter mat
6 Fastening screw of the filter mat holder
7 Filter mat holder

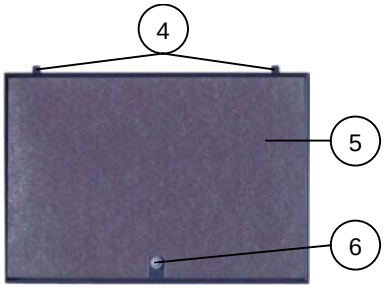


Fig. 26a: Filter mat holder with filter mat

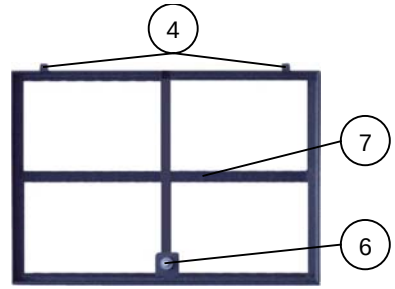


Fig. 26b: Filter mat holder without filter mat

Replacing the Lithium Battery

The integrated motherboard or SBC-board of your system is equipped with a lithium battery. To replace the battery, please proceed as follows:

1. Open the unit as described in the “Installing/Removing the Expansion Cards” chapter (step 1-4).
2. If your system is expanded with expansion cards, please remove at first the cards and the corresponding data cables, to have access to the lithium battery.
3. Remove the battery by pressing outwards the ejector spring.
4. Place the new battery into the socket.
5. Make sure that you insert the battery the right way around. The plus pole must be on the top!
6. The lithium battery must be replaced with an identical battery or a battery type recommended by Kontron Embedded Computers.
7. Reinstall the removed expansion cards and reconnect the removed data cable.
8. Close the Unit as described in chapter “Installing/Removing the Expansion Cards” (step 5-8).

Do not dispose of lithium batteries in general trash collection. Dispose of the battery according to the local regulations dealing with the disposal of these special materials, (e.g. to the collecting points for dispose of batteries).

Slide Rails (Option)

Kontron offers slide rails for the installation of the KISS-Platform into a 19“ industrial cabinet. These can be ordered under:
“Slide rails” - Set No.: 3-A260-0244.

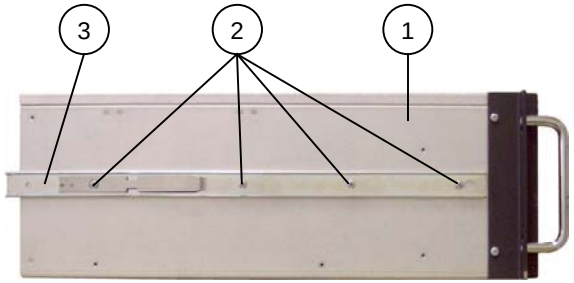


Fig. 27: Attaching the inner side of the slide rail

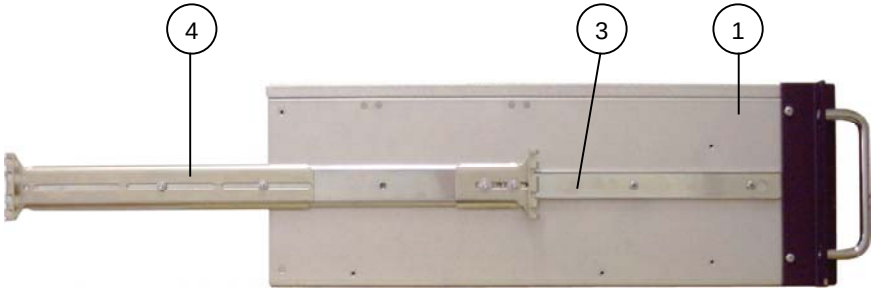


Fig. 27a: Kiss-Plattform with slide rail

Legend for figures: 27 and 27a:

1	Side view of the KISS-Platform	3	Slide rail inner part
2	4x M4x6 rounded head screw (per each side of the unit)	4	Slide rail outer part

☞ Please observe, that only the specified M4x6 screws may be used for the attachment of telescope rails to the KISS-Platform.

Main Specifications

Processor	KISS_ATX MB-A	Intel® P4, 2.8 GHz or faster	
	KISS_PCI 951-B	Intel® P4, 2.8 GHz or faster	
	KISS_PCI 953-B	Intel® P4, 3.2 GHz	
	KISS_EPCI-B	Intel® P4, 2.8 GHz or faster	
	KISS_ATX Dual Xeon-C	Intel® Xeon, 3.06 GHz or faster	
Lithium-Battery	Type: CR2032; 3.0 V; 0.22Ah; LIXING		
Drive bays at the front side & internal	3x 5.25”, outside accessible (horizontal position) 2x 3.5”, outside accessible (vertical position) Option (not available for tower version): 1x 3.5“ (internal) 1x Slim		
External Interfaces at the rear side	**for systems with SBC-board**: Interfaces of the SBC-board, (refer to SBC User’s Manual) Additional interfaces: * 2x USB (1.1/2.0) 1x COM1 (configured as RS232) 1x COM2 (configured as RS232) 1x LPT1 **for systems with motherboard:** Interfaces of the motherboard, (refer to Motherboard User’s Manual)		
External Interfaces at the front side	*2x USB (1.1/2.0)		
Operating elements at the front side	1x ATX-power button 1x Reset-button		
Operating element at the rear side	1x PSU switch	KISS_ATX MB-A	
		KISS_ATX Dual Xeon-C	
LED-indicators at the front side	1x Power-LED 1x HDD activity-LED		
Expansion slots at the rear side	Up to maximal 12 free expansion slots The number and type of the free expansion slots depend on the integrated board, type of the board and the system‘s hardware configuration.		
AC-power plug / AC-outlet for monitor at the rear side	Connectors	AC	Monitor
	KISS_ATX MB-A	☑	☑
	KISS_PCI 951-B	☑	☑
	KISS_PCI 953-B	☑	☑
	KISS_EPCI-B	☑	☑
	KISS_ATX Dual Xeon-C	☑	☐

* KISS-system with ePCI200 SBC-board (KISS_EPCI-B) supports only USB1.1.

Electrical Specifications

System Version	Integrated PSU	Input
KISS_ATX MB-A	300 W	TBD
KISS_PCI 951-B KISS_PCI 953-B KISS_EPCI-B	350 W	TBD
KISS_ATX Dual Xeon-C	450 W	TBD

Mechanical Specifications

Dimension	
Height	4HE (177 mm)
Width	Front: 19”; Chassis: 430 mm (16,929“)
Depth	Chassis: 471.5 mm (18.543“)
Weight	Approx. 20 kg (without packaging)
Chassis	Steel with zinc plating, Steel front panel blue

Environmental Specifications

Thermal management	2x system fans (temperature controlled) 1x power supply fan (temperature controlled) 1x CPU fan
Operating temperature / relative humidity	0 … +50°C / 5 - 90 % not condensing (32 … 122 °F / 5 - 90% not condensing)
Storage / transit temp. / relative humidity	-25 … +70 °C / 0 - 95 % not condensing (-13 … 158 °F / 5 - 95 % not condensing)
Operating altitude	3,048 m (10,000 ft)
Storage / transit altitude	10,000 m (32,810 ft)
Operating shock	15 G, 11 ms duration, half sine
Storage/transit shock	30 G, 11 ms duration, half sine
Operating vibration	10 – 500 Hz, 1.0 G
Storage / transit vibration	10 – 500 Hz, 2.0 G
Acoustic noise	<35 dB at 1 m in front of the system, full load

CE-Directives and Standards

CE -Directives	
Low Voltage directive (Electrical Safety)	73/23/EWG
EMC Directive	89/336/EWG

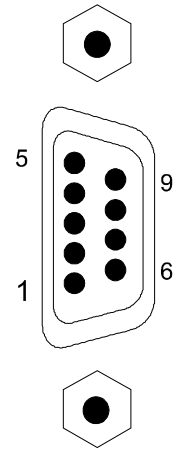
Electrical Safety	**Standards**
EUROPE International	EN 60950: 2000
U.S.A.	UL 60950: 2003
Canada	CSA 22. – 60950-00: 2000

EMC	**Standards**
EUROPE	Emission: EN 55011:1998+A1:1999+A2:2002, Class A Immunity: EN 61000-6-2: 2001
U.S.A.	FCC 47 CFR Part 15, Class A

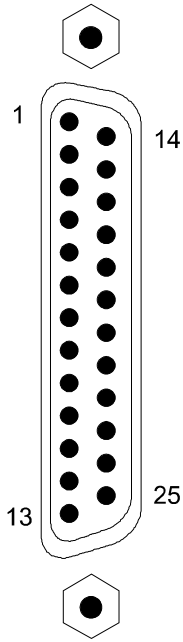
Standard Interfaces – Pin Assignments

Low-active are indicated by a minus sign.

COM1 / COM2 (RS232)

Pin	Signal name		9-pin SUB D-plug
1	DCD	(Data Carrier Detect)	
2	RXD	(Receive Data)	
3	TXD	(Transmit Data)	
4	DTR	(Data Terminal Ready)	
5	GND	(Signal Ground	
6	DSR	(Data Set Ready)	
7	RTS	(Request to Send)	
8	CTS	(Clear to Send)	
9	RI	(Ring Indicator)	

Parallel Port

Pin	Signal name	25-pin SUB D-socket
1	-STROBE	
2	DATA0	
3	DATA1	
4	DATA2	
5	DATA3	
6	DATA4	
7	DATA5	
8	DATA6	
9	DATA7	
10	-ACKN	
11	BUSY	
12	PE	
13	SELECT	
14	-AUTOFD	
15	-ERROR	
16	-INIT	
17	-SLCTIN	
18–25	GND	

Technical Support

For technical support, please contact our Technical Support department.

German headquarter Hotline:
TEL: (+49) 8165-77 112
FAX: (+49) 8165-77 110
E-mail: techsup@kontron.com

Make sure you have the following information on hand when you call:

- the unit part id number (P/No #),
- and the serial number (S/No #) of the unit (provide the serial number found on the type label, placed on the right side of the system).

Be ready to explain the nature of your problem to the service technician.

If you have questions about Kontron Embedded Computers or our products and services, you may reach us at the aforementioned numbers, or at : www.kontron.com or by writing to:

Kontron Embedded Computers GmbH
Oskar-von-Miller-Str. 1

85386 Eching near Munich
Germany

Returning Defective Merchandise

Before returning any merchandise, please:

1. Contact our Service and request an
   RMA number (Return Material Authorization) by :
   Fax: (+49) 8165-77 311
   E-mail: service@kontron.com
2. Make sure that you receive an RMA number from Kontron Embedded Computers-Service before returning any merchandise. Clearly write or mark this number on the outside of the package you are returning.
3. Describe the device failure behavior.
4. When returning goods, include the name and telephone number of a person whom we can contact for further explanations if necessary. Where applicable, always include all duty papers and invoice(s) associated with the item(s) in question.
5. When returning a unit.
   - Ensure that the unit is properly packed in the original box.
   - Include a copy of the RMA form.